

**INSTALLATION
INSTRUCTIONS**

**THREADED IMMERSION HEATER
VOLVO VE - D7**



WARNING

DO NOT plug in heater if element is not immersed in coolant. If not immersed, element sheath may burst and could result in personal injury.



CAUTION

USE a 50/50 solution of ethylene glycol antifreeze and water for optimum heater performance.
DO NOT use more than 65% concentration of antifreeze, as a shortened heater life will result.
DO NOT use heater in coolant system containing any form of stop-leak additive, as a shortened heater life will result.

HEATER INSTALLATION PROCEDURE

1. Drain engine coolant. Flush system if necessary.
2. Remove threaded core plug on left rear (driver's side) of engine--see Figure 1. The intake piping may have to be loosened and/or removed to gain adequate access to the core plug.
3. Clean threads and surface of block opening.
4. Reuse plastic gasket from core plug.
5. Install heater assembly--see Figure 2. The heater can be disassembled for installation. During installation, point the element at 9 o'clock. Insert element with light pressure, working the element back and forth. When in place, the element will rotate freely approximately 30°. Reassemble heater if necessary.

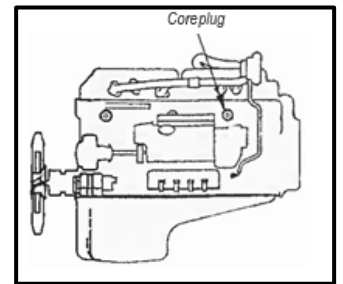


Figure 1



CAUTION

The element gasket is required--see Figure 2. The 1/4" hex nut should be loose until adapter is tightened. Thread adapter into the block. Do not allow the element to turn while the adapter is tightened.

6. Position the heating element approximately at midpoint of the back and forth rotation. Tighten hex nut on element assembly unit to 20 – 30 foot lbs. torque. DO NOT allow element to turn while tightening.
7. Insert power cord connector into socket, taking care to align pins with sockets of connector on cord. Tighten strain relief nut securely by hand.
8. Route cord to outside, securing where necessary to allow slack for engine vibration and ensure that cord does not touch engine, hot pipes, or any moving parts. **Connect only to properly grounded 120-Volt AC outlet.** If an extension cord is used, it must be the three-wire grounded type.

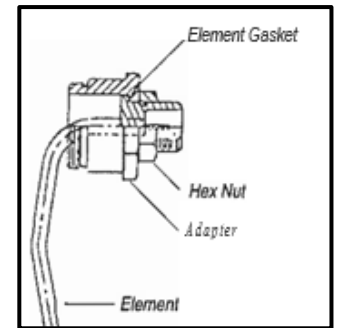


Figure 2



CAUTION

Before applying power to heater, be sure cooling system is completely filled with good grade permanent antifreeze and remove all trapped air by operating engine for 5-10 minutes after thermostat opens (normal operating temperature). DO NOT start engine while power is supplied to heater. Turbulence and air bubbles may cause hot spots on heating element which can result in element failure.

WARRANTY

The Phillips & Temro Industries warranty statement is located on the website at phillipsandtemro.com/terms.